From:	R6HarveyENVL
To:	R6HarveyInfo
Subject:	FW: Decision Point for Pad Sampling QAPP
Date:	Thursday, September 14, 2017 10:56:15 AM

From: Newhart, Gary
Sent: Thursday, September 14, 2017 10:56:13 AM (UTC-06:00) Central Time (US & Canada)
To: Rauscher, Jon; Turner, Philip
Cc: R6HarveyENVL
Subject: FW: Decision Point for Pad Sampling QAPP

From: Getty, Donna J. [mailto:Donna.J.Getty@leidos.com]

Sent: Thursday, September 14, 2017 10:27 AM

To: Newhart, Gary <Newhart.Gary@epa.gov>

Subject: Decision Point for Pad Sampling QAPP

Gary,

Let me know if the text below is what you need. Being more specific is difficult until I actually work with the data.

Null Hypothesis: Central Tendency/95% UCLs of the measured parameters in post-staging soil is not greater than those measured in pre-staging soil

Alternate Hypothesis: Central Tendency/95%UCLs of the measured parameters in post-staging soil is greater than pre-staging soil

Multivariate statistical analysis will be conducted with alpha = 0.05 to establish if parameters measured in composite post-staging soil samples collected from the pad soils have not changed following orphan item clean-up. Because the expected distribution, ranges of concentrations and associated variability of the populations are currently unknown, basic exploratory data analysis will be performed to assist in the determination of the appropriate test to use: testing based on a known distribution (comparison of means) or a non-parametric test (comparison of median/ranks). Differences between pre-staging and post-staging soil results will be examined through a combination of statistical graphing (e.g., box-plots, quantile-quantile plots) and t-tests (or non-parametric equivalent). Additional statistical analysis will include comparison of upper confidence limits of pre- and post- measurements, and multivariate analysis of variance (or non-parametric equivalents) including *a posterior* testing (multiple comparisons).